

SYMPOSIUM ON BYZANTINE MEDICINE

INTRODUCTION*

Among medical historians, the commonly held opinion of Byzantine medicine is one of stagnation, plagiarism of the great medical figures of classical antiquity, and a somber boredom that seemingly awaited the Italian Renaissance. Even in his carefully researched and generally incisive essay on Byzantine medicine,¹ Temkin states as a fundamental premise that "Byzantine medicine . . . represents the formation as well as the continuation of a tradition, broken and unbroken."² But Temkin's views are cautious and salutary compared with accounts found in most contemporary histories of medicine, which say that Galen's compilation was the last contribution to medical knowledge in the West until the Renaissance. Typical is Majno's ". . . after Galen, the history [of medicine] grinds to a halt for at least one thousand years. Europe sank into the Dark Ages."³ Garrison writes that "[Byzantine] medicine had become an affair of salves and poultices, talismans and pentagrams, with a mumbling of incantations and spells very like the backwoods pranks of Tom Sawyer and Huckleberry Finn, or some of the vagaries of Christian Science."⁴ Singer and Ashworth note that "[Byzantine] medical writers became mere compilers from

the works of former authors."⁵ German medical histories are not free of this anti-Byzantine prejudice,⁶ but the classic lines are in Allbutt's prolix and diffuse *Greek Medicine in Rome*:

Medicine of any pretence to a scientific quality thus passed . . . into slumber. The germ, in suspended animation, was enclosed in . . . a huge and cumbrous and somatic envelope . . . Byzantine medicine . . . had become a tradition, a burial of talents. The culture of the mistress of the world in this period was imitative, hoarding, and stereotyped.⁷

Fortunately, a slowly growing number of scholars have challenged this Gibbonesque attitude toward the medicine of a millennium, in one of the great civilizations of world history. The collection of papers in this volume follows the paths cut through the negatives by a few modern historians of medicine, especially Owsei Temkin. One may, moreover, borrow the insight of Alexander Kazhdan, who has recently written that the ". . . Byzantine literati, or at any rate the greatest among them, [were] involved in the real life of their time."⁸ So also, one may presume that the physicians and medical writers of the Byzantine Empire were likewise embroiled in the issues and debates of their day, and that any consideration of Byzantine medicine must assume a firm historical and social context. For example, although the modern physician will immediately reject any notion that magic and

[The reader is referred to the list of abbreviations at the end of the volume.]

*A revised version of the "Introductory Remarks" given on 29 April 1983 at the Dumbarton Oaks Symposium on Byzantine Medicine

¹O. Temkin, "Byzantine Medicine: Tradition and Empiricism," *DOP*, 16 (1962), 97–115 = Temkin, *Double Face of Janus*, 202–22.

²*Ibid.*, 97 = *Double Face of Janus*, 202.

³G. Majno, *The Healing Hand: Man and Wound in the Ancient World* (Cambridge, Mass., 1975), 417. The book, however, is generally an excellent example of superb medical history. See reviews by John Scarborough in *AHR*, 82 (1977), 66–67, and *CJ*, 72 (1976), 80–82.

⁴F. H. Garrison, *An Introduction to the History of Medicine*, 3rd ed. (Philadelphia, 1921), 111.

⁵C. Singer and E. A. Underwood, *A Short History of Medicine*, 2nd ed. (New York, 1962), 67.

⁶E.g., T. Meyer-Steineg and K. Sudhoff, *Illustrierte Geschichte der Medizin*, 5th ed., rev. R. Herrlinger and F. Kudlien (Stuttgart, 1965), 101: "Mit Galenos hatte der forschende und erkennende Griechengeist in der Heilkunde seinen letzten grossen Zeugen verloren."

⁷T. C. Allbutt, *Greek Medicine in Rome* (London, 1921; rptd. New York, 1970), 394.

⁸A. Kazhdan, in collaboration with S. Franklin, *Studies on Byzantine Literature of the Eleventh and Twelfth Centuries* (Cambridge and Paris, 1984), vii.

astrology might be useful in medical practice, many of our sources for Byzantine medicine show a strong influence of both, ranging from the religious-medical cures of pilgrims' tokens examined by Vikan below⁹ to a continued employment of the medical astrology of the quasi-mythical Hermes Trismegistus and the firm belief in demonology.¹⁰ One should not, therefore, be surprised that one of the greatest Byzantine medical practitioners, Alexander of Tralles, sanctioned magic, particularly when the patient's belief aided a cure.¹¹ Moreover, the student of Byzantine medicine must not attempt to impose a "modern view" that would excise the so-called non-rational elements of medical practice, since this would wrest medicine from its matrix, thereby warping the conclusions to suit modern pre-conceptions.

MEDICINE AND BYZANTINE SOCIETY

Medicine figures quite commonly in Byzantine history and culture, and when one examines the full range of sources, they reveal a vibrant civilization that incorporated the entire compass of human activity, including medicine. Importantly, non-medical sources show a general awareness of medicine and medical practice. The hagiographical literature has repeated allusions to doctors,¹² some well known, some almost ignored until consideration in this volume.¹³ The modern observer soon

detects a lively mixture of Greek medical theory, venerated notions of magic, and hoary traditions of folkmedicine, a medley characteristic of Byzantine medicine as a whole. Yet even the modern concept of "medical advance" must admit the vital importance of Byzantine hospitals, which were taken for granted long before the medieval West adopted and adapted similar institutions.¹⁴ Nothing quite comparable had existed before the fourth century,¹⁵ after which the Christian *xenodochia* slowly began to evolve into carefully staffed, well organized hospitals, in full development by the twelfth century.

Literary sources further verify the typical presupposition of a sophisticated medical knowledge, widely diffused among the upper strata of the Byzantine Empire; such medicine was practiced by skilled professionals, well schooled in the theory of medicine. Illustrative are the following: Procopius' *Wars* and *Anecdota* contain numerous instances of medical knowledge, often on a rather high plane;¹⁶ Photius' review of important books includes Dioscorides, among other medical authors;¹⁷ Psellus' *Chronographia* gives details of the illness and death of Romanus III that rest upon close acquaintance with technical medical theory as well as with everyday knowledge of physicians and their approaches to treatment;¹⁸ Anna Comnena's *Alexiad* not only has many examples of medicine and medical learning,¹⁹ but also the "death scene" of Alexius Comnenus, which suggests a long-standing awareness of therapeutics and medical theory;²⁰ and John

⁹Gary Vikan, "Art, Medicine, and Magic in Early Byzantium," in this volume.

¹⁰E.g., "Hermes Trismegistus" in *Catalogus Codicum Astrologorum Graecorum*, Vol. IV: *Codices Italicos*, ed. D. Bassi, F. Cumont, A. Martini, and A. Olivieri (Brussels, 1903), 134–36. Cf. A.-J. Festugière, *La Révélation d'Hermès Trismégiste*, Vol. I: *L'Astrologie et les sciences occultes* (Paris, 1950; rptd. 1983), 146–60. For Byzantine demonology, see L. Delatte, *Un office Byzantin d'exorcisme (Ms. de la Lavra du Mont Athos, Θ 20)* (Brussels, 1957).

¹¹E.g., Alexander of Tralles VIII, 2 [*On Colic*] (ed. Puschmann, II, 376).

¹²In the fairly abundant literature on this topic, one can consult: H. J. Magoulias, "The Lives of the Saints as Sources for the History of Byzantine Medicine in the Sixth and Seventh Centuries," *BZ*, 57 (1964), 127–50 (not always reliable); P. Charanis, "The Monk as an Element of Byzantine Society," *DOP*, 25 (1971), 61–84, esp. 74; D. J. Constantelos, "Physician-Priests in the Medieval Greek Church," *Greek Orthodox Theological Review*, 12 (1966–67), 141–53; Mary E. Keenan, "St. Gregory of Nazianzus and Early Byzantine Medicine," *BHM*, 9 (1941), 8–30, and "St. Gregory of Nyssa and the Medical Profession," *BHM*, 15 (1944), 150–61; and Evelyne Patlagean, "Birth Control in the Early Byzantine Empire," in R. Forster and O. Ranum, eds., *Biology of Man in History*, trans. [from the French] by E. Forster and P. M. Ranum (Baltimore, 1975), 1–22.

¹³See Vivian Nutton, "From Galen to Alexander," John Duffy, "Byzantine Medicine in the Sixth and Seventh Centuries," and Susan Harvey, "Physicians and Ascetics in John of Ephesus," in this volume.

¹⁴Many references conveniently collected in D. Constantelos, *Byzantine Philanthropy and Social Welfare* (New Brunswick, New Jersey, 1968), ch. 11: "Hospitals." But see Timothy Miller, "Byzantine Hospitals," in this volume.

¹⁵Scarborough, *Medicine*, 76–93, and "Roman Medicine and Public Health," in T. Ogawa, ed., *Public Health: Proceedings of the 5th International Symposium on the Comparative History of Medicine . . . 1980 . . . Susono-shi, Shizuoka, Japan* (Tokyo, 1981), 33–74, esp. 56–57 with nn. 217–28.

¹⁶E.g., Procopius, *History of the Wars: The Persian War I*, 6.17–18 [Persian method of blinding].

¹⁷Photius, *Library* 178: Dioscorides (ed. R. Henry, *Photius: Bibliothèque*, Vol. II [Paris, 1960], pp. 182–84); *Library* 164: Galen (ed. Henry, Vol. II, pp. 135–36); *Library* 72: Ctesias (ed. Henry, Vol. I [Paris, 1959], pp. 105–47); *Library* 216–19: Oribasius (ed. Henry, Vol. III [Paris, 1962], pp. 131–39); *Library* 221: Aetius of Amida (ed. Henry, Vol. III, pp. 140–52).

¹⁸Michael Psellus, *Chronographia* III, 24–26 (ed. E. Renauld, *Michel Psellos: Chronographie ou Histoire d'un siècle de Byzance (976–1077)* [Paris, 1926–28; 2 vols.; rptd. 1967], Vol. I, pp. 49–52).

¹⁹Georgina Buckler, *Anna Comnena* (Oxford, 1929; rpt. 1968), 215–21.

²⁰Anna Comnena, *Alexiad* XV, 11 (ed. B. Leib, *Anne Comnène Alexiade* [Paris, 1937–45; 3 vols.; rptd. 1967], Vol. III, pp. 230–43). Comparable are the accounts of the death of Theodora.

Tzetzes' *Letters* show a deeply embedded expertise in "ancient" medical writings, particularly Galen.²¹ These five authors are merely indicative of the continual context of a sophisticated state of medicine through the millennium of Byzantine culture. And one can cite Chrétien de Troyes (*Cligès*, 5699–6050) to show that Byzantine physicians were widely respected in the twelfth century, as contrasted to "progressive" physicians from Salerno.

BYZANTINE MEDICINE: THE PRIMARY SOURCES

The medical sources also disclose a lively and constant activity. Old traditions and fresh observations are reworked, recombined, and reorganized according to the shifting needs of Byzantine society. Veterinary medicine provides a clear example of this continual adaptation, and one needs to recall that "horse medicine" was an integral part of the newly fashioned army based on cavalry, created in the late third and early fourth century, becoming standard with Constantine I (A.D. 324–37). The new demands of the military produced tracts on veterinary medicine by Apsyrtus (? *fl.* under Constantine),²² and Hierocles (? *fl.* c. A.D. 360),²³ which formed major sources for the extant collection of veterinary materials known as the *Corpus hippiatricorum Graecorum*, probably compiled in the reign of Constantine VII Porphyrogenitus (A.D. 913–59).²⁴ Both Apsyrtus and Hierocles appear to have been "physicians in the field," and their descriptions of equine disorders (glanders, for example) occasionally match and surpass anything before the nineteenth century.²⁵ Recent studies by Fischer have detailed how innovative were these

veterinary authors, as they struggled with the old nomenclature and how to "fit" it within new conclusions based on personal observations.²⁶

The old Roman civilization was securely based on an agricultural ideal, and the Romans had established their mastery of farming—both in practice and theory—with the farming manuals by Cato the Elder (234–149 B.C.), Varro (116–27 B.C.), and Columella (his *De re rustica* was written c. A.D. 60–65). Unlike the normal practice of taking Greek medical writings and putting them into Latin (as in the case of the beautifully written *De medicina* by Cornelius Celsus [*fl.* A.D. 14–37]),²⁷ the Latin veterinary works were soon rendered into Greek. Byzantine physicians and students of natural history fused the old Roman tradition of agricultural treatises with botany, and as early as A.D. 360, Didymus of Alexandria wrote a *Georgica* as well as an *Octatomus*;²⁸ the *Georgica* became a source for the extant *Geoponica*, and the details of various remedies in the *Octatomus* were combined in the writings of Anatolius of Beirut (*fl.* c. A.D. 365), who composed a medico-agricultural work that was also incorporated into the *Geoponica*. An important aspect of "medical" literature in the Byzantine Empire consisted of farmers' applications and observations in terms of their crops and animals, and a consideration of Byzantine medicine should include how botanicals and therapeutics functioned on the farm, where the vast majority of the citizens resided.

Byzantine medical sources provide evidence of a perpetual activity. Philagrius (*fl.* c. A.D. 375) made

Victor Tonnennensis, *Chronica*, sa. 549 (ed. T. Mommsen, *Chronica Minora*, II, 202): "Theodora Augusta Chalcedonsis synodi inimica canceris plaga corpore toto perfuse vitam prodigiose finivit." Malalas 484, and Procopius, *Wars* VII, 30.4, add nothing further. Simple "cancer:" Tony Honoré, *Tribonian* (Ithaca, New York, 1978), 12. Syphilis: J. Körbler, "Die Krebserkrankung der byzantinischen Kaiserin Theodora," *Janus*, 61 (1974), 15–22.

²¹ E.g., John Tzetzes, *Letters* 81 (ed. P. A. M. Leone, *Ioannes Tzetzes Epistulae* [Leipzig, 1972], p. 121). Cf. C. Harder, *De Ioannis Tzetzae historiarum fontibus quaestiones selectae* (Kiel, 1886), esp. 71.

²² R. E. Walker, "Roman Veterinary Medicine," appendix in J. M. C. Toynbee, *Animals in Roman Life and Art* (London, 1973), 303 with n. 3, p. 404.

²³ H. Gossen, "Hierokles," *RE*, Vol. XVI (Stuttgart, 1913), cols. 1713–15. See also K. Hoppe, "Theomnestos," *RE*, Supplementband VII (Stuttgart, 1940), cols. 1353–54.

²⁴ Walker, "Veterinary Medicine" (n. 22 above), 404 n. 6.

²⁵ *CHG*, II, 1–9 [Apsyrtus]; II, 10–17 [Hierocles]; II, 18 [Theomnestus] (ed. Oder and Hoppe, Vol. I, pp. 13–23). Glanders was one of the first diseases of horses and donkeys to be

observed in Greek antiquity. Aristotle, *Historia Animalium* 605a16–19, is one of the earliest records. The μάλινξ of Apsyrtus, Hierocles, and Theomnestus becomes *maleus* in Vegetius, *Mulomedicina* I, 10 (ed. Lommatszsch, pp. 21–23), from which name is derived the modern nomenclature of the causative bacilli (*Malleomyces*), particularly *Actinobacillus mallei*.

²⁶ K.-D. Fischer, "Wege zum Verständnis antiker Tierkrankheitsnamen," *Historia Medicinae Veterinariae*, 2 (1977), 106–11; "Philimelia und phlemina," *Hermes*, 107 (1979), 495; "Three Lexicographical Notes," *Glotta*, 57 (1979), 224–26; and "Palladius, de vet. med. 14. 15. 5," *Liverpool Classical Monthly*, 4 (1979), 73–74. See also Anne-Marie Doyen-Higuet, "The Hippiatrica and Byzantine Veterinary Medicine," in this volume.

²⁷ Scarborough, *Medicine*, 59–63.

²⁸ M. Wellmann, "Didymos," *RE*, Vol. II (Stuttgart, 1894), col. 2073. Meyer, *Botanik*, II, 256–57. Anatolius of Beirut: *Geoponica* II, 10; V, 10 and 18; VI, 3.4 and 13; VII, 28; X, 8, 18.72 and 85; XI, 20; XII, 7 and 36; XIII, 17; XIV, 21; and XVIII, 17. Meyer, *Botanik* II, 258–59. E. Oder, "Beiträge zur Geschichte der Landwirtschaft bei den Griechen," *RhM*, 45 (1890), 212–22. For the *Geoponica*, see: W. Gemoll, *Untersuchungen über die Quellen, den Verfasser und die Abfassungszeit der Geoponica* (Berlin, 1883; rptd. Wiesbaden, 1972); and N. G. Wilson, *Scholars of Byzantium* (London, 1983), 143. The *Geoponica* was compiled under the orders of Constantine VII Porphyrogenitus, to whom the collection is dedicated: *Geoponica*, Prooemium, 2 and 11.

original observations on diseases of the spleen,²⁹ and a certain Posidonius (? fl. c. A.D. 390) investigated the brain, in what appears to be an attempt to "localize" brain function.³⁰ Natural philosophy, physiology, and medicine were amalgamated in *On the Nature of Man* by Nemeseius of Emesa (fl. c. A.D. 400),³¹ and Galen is a basic foundation in this very influential treatise. Famous are the medical encyclopedias of Oribasius (c. 325–400),³² Aetius of Amida (fl. under Justinian [A.D. 527–65]),³³ Alexander of Tralles (c. 525–605),³⁴ and Paul of Aegina (fl. c. A.D. 640 in Alexandria).³⁵ And these are but the major names in a continuing catalogue that would include Nicetas (c. A.D. 800),³⁶ Theophanes "Nonnus" (fl. A.D. 912–59),³⁷ Damnastes (fl. A.D. 1050),³⁸ Stephen Magnetes (c. 1050),³⁹ Michael Psellus (1018–78),⁴⁰ Symeon Seth (fl. under Michael VII Ducas [1071–78]),⁴¹ John Tzetzes (? fl. c. 1130),⁴² Hierophilus the Sophist (c. 1350),⁴³ and John Actuarius (c. 1320).⁴⁴

²⁹T. Puschmann, ed. [Latin text], *Nachträge zu Alexander Trallianus* (Berlin, 1887; rptd. Amsterdam, 1963), 74–129 ("Fragmente aus Philagrius").

³⁰A. Lewy and R. Landesberg, "Über die Bedeutung des Antyllus, Philagrius, und Posidonius," *Janus*, 2 (1847), 758–71, and 3 (1848), 166–84. O. Temkin, "Das 'Brüderpaar' Philagrius und Poseidonios," *SA*, 24 (1931), 268–70.

³¹ed. Matthaei.

³²H. O. Schröder, "Oribasios," *RE*, Supplementband VII (Stuttgart, 1940), cols. 797–812. B. Baldwin, "The Career of Oribasius," *Acta Classica*, 18 (1975), 85–97.

³³ed. Olivieri.

³⁴ed. Puschmann; French trans. by Brunet.

³⁵ed. Heiberg.

³⁶Sarton, *Introduction*, I, 608. J. Kollesch and F. Kudlien, eds., *Apollonii Citensis in Hippocratis De articulis commentarius* (Berlin, 1965 [CMG XI 1, 1]); illustrations probably by Nicetas and his assistants.

³⁷J. S. Bernard, ed., *Nonni Epitome De curatione morborum* (Gotha, 1794–95; 2 vols.). But see Joseph Sonderkamp, "Theophanes Nonnus: Medicine in the Circle of Constantine Porphyrogenitus," in this volume.

³⁸Sarton, *Introduction*, I, 727. Hunger, "Medizin," 310.

³⁹Meyer, *Botanik*, III, 365–79. Sarton, *Introduction*, I, 727.

⁴⁰Psellus, *Medical Poem*: Ideler, I, 203–43. Psellus, *On the Bath*: Ideler, II, 193. Meyer, *Botanik*, III, 350–56.

⁴¹B. Langkavel, ed., *Simeonis Sethi Syntagma De alimentorum facultatibus* (Leipzig, 1868). *Philosophy and Medicine*: Ideler, II, 283–85. Meyer, *Botanik*, III, 356–65. Hunger, "Medizin," 308–9.

⁴²See n. 21 above.

⁴³Hierophilus, *On Diet*: Ideler, I, 409–17, and probably unnamed works by Hierophilus in Ideler, I, 423–29, and II, 257–81. L. Oeconomus, "Le calendrier de régime d'Hierophile d'après des manuscrits plus complets que le Parisinus 396," *Actes du VI^e Congrès International d'Études byzantines* (Paris, 1948 [1950]), I, 169–79. Another version of the Greek text of *On Diet* by Hierophilus is in Delatte, *Anecdota*, II, 456–66. Hunger, "Medizin," 309.

⁴⁴Hunger, "Medizin," 312–13. See also Armin Hohlweg, "John Actuarius' 'De methodo medendi'—On the New Edition," in this volume.

The would-be student of Byzantine medicine is thus faced with an overabundance of source materials, with some of the texts basically in the form of unedited manuscripts, or in printed texts edited in the eighteenth and nineteenth centuries that do not reflect high standards of textual criticism, collation of manuscripts, and the essential firsthand command of anatomy, medicine, and pharmacology. Many of our printed editions emerge from the pioneering collections of Dietz, Ermerins, and Ideler, as well as more recent texts on Byzantine botany and pharmacology by Delatte and Thomson.⁴⁵ Sometimes there are glaring interpolations in the nineteenth-century editions which can be rectified only through a fresh series of readings in the various manuscripts. Two examples will serve to illustrate the state of our printed sources. Theophilus Protospatharius (fl. in the reign of Heraclius [A.D. 610–41]) composed tracts entitled *On Pulses*, *On Urines*, and *On Defecation*, and the "best" texts of these treatises are in Ermerins and Ideler,⁴⁶ while Theophilus' *On the Constitution of the Human Body* was last edited and translated (into Latin) by the admirable physician-classicist W. A. Greenhill in 1842.⁴⁷ John Actuarius, a crucial source for the understanding of Byzantine medical knowledge as it was transmitted into the Renaissance, remains generally unedited in the Greek, but as Hohlweg's essay below suggests,⁴⁸ there is now a concerted effort to determine the best witnesses in the tradition for John Actuarius and to place him securely into the history of late Byzantine medicine and pharmacy on the basis of well-edited Greek texts.

Reliable, modern texts do exist, but only in a small minority of cases. Well-edited Greek texts are available for Oribasius,⁴⁹ Paul of Aegina,⁵⁰ Alexander of Tralles,⁵¹ Aetius of Amida (through Book VIII),⁵² Stephen of Alexandria's *Commentary on the Prognosticon of Hippocrates*,⁵³ Philaretus' *On Pulses*,⁵⁴

⁴⁵Delatte, *Anecdota*, II, 273–499. Margaret H. Thomson, ed. and trans., *Textes Grecs inédits relatifs aux plantes* (Paris, 1955).

⁴⁶*On Pulses*: Ermerins, 1–77. *On Urines*: Ideler, I, 261–83. *On Defecation*: Ideler, I, 397–408. *Commentaries on Hippocrates' Aphorisms*: Dietz, II, 236–544 (probably conflated with Damascus, Stephen of Athens, and Meletius).

⁴⁷Oxford: 'E Typographeo Academico.'

⁴⁸Hohlweg, "John Actuarius" (n. 44 above).

⁴⁹ed. Raeder.

⁵⁰ed. Heiberg.

⁵¹ed. Puschmann.

⁵²ed. Olivieri.

⁵³J. M. Duffy, ed. and trans., *Stephanus the Philosopher: A Commentary on the Prognosticon of Hippocrates* (Berlin, 1983 [CMG XI 1, 2]).

⁵⁴J. A. Pithis, ed., trans., and comm., *Die Schriften ΠΙΕΠΙ ΣΦΥΤΜΩΝ des Philaretos* (Husum, 1983).

Leo the Physician,⁵⁵ Pelagonius,⁵⁶ and Palladius⁵⁷ (the last two in Latin). One can generally trust the texts of the *Geoponica*,⁵⁸ Eutecnus' *Paraphrases of Nicander and Oppian*,⁵⁹ the veterinary material in the *Corpus hippiatricorum Graecorum*,⁶⁰ but we are still most puzzled by John of Alexandria (c. A.D. 627–40), even though well-edited texts of Latin translations of John's *Commentary on Hippocrates' Epidemics* and *Commentary on Galen's On Medical Sects* are now available.⁶¹ Iskandar's summary of the Arabic transmission of the "Sixteen Galenic Categories" in late Alexandrian medicine shows some of the problems in untangling Byzantine from Arabic traditions,⁶² also noted from another aspect by Lieber.⁶³

An enormous lacuna exists in our comprehension of cross-cultural medical transmissions. Baader's essay below⁶⁴ addresses some of the problems in how Byzantine medical works eventually made their way into the early medieval West, and Dols' study of concepts of insanity⁶⁵ poses some fresh questions to what might appear to be mutually exclusive Greek and Arabic sources. We are reasonably well informed about Hunain ibn-Ishāq's many excellent translations of Greek medical texts into Syriac and into Arabic,⁶⁶ but earlier and later translations and adaptations remain foggy. We would, for example, like to know far more about Sergius of Resaina (d. in Constantinople, A.D. 536;

fl. at Ra's al-ʿain somewhat earlier) and his translations of Greek works into Syriac.⁶⁷ Myerhoff examined Sergius' link with Hunain ibn-Ishāq,⁶⁸ and Budge's text of the *Syrian Anatomy* has other connections,⁶⁹ but the essential character of these Syriac renditions remains quite uncertain. Harvey's examination of Syriac texts of John of Ephesus' medical opinions⁷⁰ illustrates the rich lore of material extant in this generally unexplored aspect of Byzantine medical influences, and this is coupled with the extensive number of manuscripts of Syriac translations of Galen.⁷¹ One presumes such translation was fundamental for the medical teaching at Jundishapur under the Sassanians (especially in the reign of Nūshīrwān the Just [A.D. 531–79]),⁷² where multi-cultural medical traditions mixed into an amalgam; with the expulsion of the Nestorians from Edessa in 489, and the banishment of the neo-Platonists from Athens in 529, one also assumes these refugee-scholars enriched the "school" at Jundishapur with further Greek heritages, which, in turn, became melded with Hindu, Jewish, Christian, Syriac, and Persian sources. In their turn, all these traditions would have heavy impact on Arabic medicine. On the "other side" are the works by Symeon Seth, whose *Philosophy and Medicine* appears in Ideler,⁷³ and whose *Properties of Foods* was last edited by Langkavel.⁷⁴ In the works of Symeon Seth one meets—presumably for the first time—Arabic and Hindu spices and drugs in a Greek medical text. One may wonder why such influ-

⁵⁵ ed. Renehan.

⁵⁶ ed. Fischer.

⁵⁷ ed. Rodgers.

⁵⁸ ed. Beekh.

⁵⁹ Isabella Gualandri, ed., *Eutecnii Paraphrasis in Nicandri Theriaca* (Milan, 1969). M. Geymonat, ed., *Eutecnii Paraphrasis in Nicandri Alexipharmaca* (Milan, 1976). M. Papathomopoulos, ed., *Eutekniou paraphrasis eis ta Nikandrou Thēriaka kai Alexipharmaka* (Ioannina [Greece], 1976) and ed., *Anōnymou paraphrasis eis ta Oppianou halieutika* (Ioannina, 1976). See reviews of Papathomopoulos and Geymonat by G. Giangrande in *JHS*, 98 (1978), 181–82.

⁶⁰ ed. E. Oder and C. Hoppe.

⁶¹ C. D. Pritchett, ed., *Iohannis Alexandrini Commentaria in sextum librum Hippocratis Epidemiarum* (Leiden, 1975), and ed., *Iohannis Alexandrini Commentaria in librum De sectis Galeni* (Leiden, 1982).

⁶² A. Z. Iskandar, "An Attempted Reconstruction of the Late Alexandrian Medical Curriculum," *Medical History*, 20 (1976), 235–58.

⁶³ Elinor Lieber, "Galen in Hebrew: The Transmission of Galen's Works in the Medieval Islamic World," in Nutton, ed., *Galen: Problems*, 167–86 (esp. 172–79).

⁶⁴ Gerhard Baader, "Early Medieval Latin Adaptations of Byzantine Medicine in Western Europe," in this volume.

⁶⁵ Michael Dols, "Insanity in Byzantine and Islamic Medicine," in this volume.

⁶⁶ M. Meyerhoff, "New Light on Hunain Ibn Ishāq and his Period," *Isis*, 8 (1926), 685–724. Ullmann, *Medizin*, 115–19. Sezgin, *Geschichte*, III, 247–56.

⁶⁷ Sarton, *Introduction*, I, 310 and 423–24. Sezgin, *Geschichte*, III, 177. Ullmann, *Medizin*, 22 and 100. A. O. Whipple, "The Role of the Nestorians as the Connecting Link between Greek and Arabic Medicine," *Annals of Medical History*, n.s. 8 (1936), 313–23.

⁶⁸ Meyerhoff, "New Light" (n. 66 above), 703. Meyerhoff's listing of the 129 works, translated by Hunain, include the following which had been previously translated into Syriac by Sergius: Nos. 4, 6–8, 11–20, 49, 53–54, 66, 71, and 80. Lieber, "Galen in Hebrew" (n. 63 above), 174–75.

⁶⁹ E. A. Wallis Budge, ed. [Syriac] and trans., *Syrian Anatomy Pathology and Therapeutics or "The Book of Medicines"* (London, 1913; 2 vols.), I, clvix–clxxii. The compiler says he "studied in Alexandria," etc. Sergius was a friend of the Byzantine historian Agathias, and much of the information in Agathias' accounts of the Sassanian court, customs, and the like, was drawn from data "... procured for him by his friend and interpreter Sergius from the Persian Royal Annals ..." (Averil Cameron, *Agathias* [Oxford, 1970], 39).

⁷⁰ See n. 13 above.

⁷¹ R. Degen, "Galen im Syrischen," in Nutton, ed., *Galen: Problems*, 131–66. See also A. Merx, "Proben der syrischen Uebersetzung von Galenus' Schrift über die einfachen Heilmittel," *ZDMG*, 39 (1885), 237–305.

⁷² Ullmann, *Medizin*, 22 and 100. Whipple, "Nestorians" (n. 67 above), 314–19. Sarton, *Introduction*, I, 435–36.

⁷³ Ideler, II, 283–85.

⁷⁴ *Ibid.*

ences and counter-borrowings did not appear sooner in Byzantine medicine. Study of Seth's *Philosophy and Properties of Foods*, as well as the unedited *Lexicon of Botany*,⁷⁵ and his *Compendium of Urines*⁷⁶ might show how deeply Arabic and Indian ideas had penetrated into Byzantine medicine by the eleventh century.

THE STUDY OF BYZANTINE MEDICINE: PROSPECTS AND QUESTIONS

Temkin has provided an exemplary method to follow, as we formulate the initial stages of the opening of the medical history of Byzantium to modern students of the History of Medicine. We must employ a carefully balanced approach to Byzantine medicine, that will necessarily include medicine and allied areas, philology, and history. All three must be present to prevent anachronism, and all three broad categories will provide context.

Medicine. Here one focuses on the practice of medicine and how it "works" in society, and the researcher must pose questions to the sources that will elucidate the texts in their own terms. What assumptions (regarding theory and technical matter, for example) are taken for granted by the physician? What assumptions are taken for granted by patients? What is the definition of a "professional" physician? What is the actual status of the practicing physician in Byzantine society? What role does tradition play in the practice of medicine in the Byzantine Empire? Is Temkin correct as he emphasizes the twin notions of "tradition and empiricism"? What are the basic sources of medical knowledge? Texts? How is a physician trained? Apprenticeships? Lectures? Institutional settings?

In Byzantine medicine, the historian needs to clarify various particular aspects of medicine as they were, asking a basic "what is it"? Generally lacking in secondary scholarship are specifics on Byzantine medical theory, herbs and drugs used in pharmacy, the ingredients of compound drugs, Byzantine surgical tools as distinguished from Greek and Roman types, and the regulations of medical institutions. With the publication of Gautier's text of the *Typikon*, and Miller's discussion of Byzantine hospitals below,⁷⁷ this omission has been partially filled.

⁷⁵ Meyer, *Botanik*, III, 356–65. Sarton, *Introduction*, I, 771. Hunger, "Medizin," 308–9.

⁷⁶ G. Harig, "Von den arabischen Quellen des Symeon Seth," *Medizinhistorisches Journal*, 2 (1967), 248–68.

⁷⁷ P. Gautier, ed. and trans., *Le Typikon du Christ Sauveur Pantocrator* in *REB*, 32 (1974), 1–145. Timothy Miller, "Byzantine Hospitals," in this volume.

Bliquez' analysis and catalogue of Byzantine surgical instruments below⁷⁸ is the first of its kind, and in the essays by Stannard and Scarborough below,⁷⁹ one can begin to perceive basic classes of drugs, as well as generally preferred drugs and changes in those choices in Byzantine pharmacy. Each paper, however, represents a beginning stage in modern scholarship.

Linked with the basics of "what is it?" are questions of "specialties" in medical practice. In Byzantine medicine, how were such specialties connected with the traditions of antiquity? How did they change over the ten centuries of Byzantine history? What would constitute a "specialty" in Byzantine medicine? Renehan and Savage-Smith analyze the theory and practice of ophthalmology respectively below,⁸⁰ and demonstrate that eye diseases demanded a specialized expertise, somewhat akin to ancient *kollyria* compounders but rather more sophisticated in Byzantine times. "Faith healing" is another "specialty"—elucidated by Vikan below⁸¹—and one would welcome a full study of how gynecology and/or midwifery functioned in Byzantine society.⁸² Théodoridès' essay on rabies in this volume indicates a specialized expertise in the symptomatology of rabies, and the papyri show a common knowledge of pharmaceutical specifics,⁸³ perhaps not expected in light of modern preconceptions. It is one of the important tasks of future research in Byzantine medicine to see and read the texts as they are, with a continual effort to avoid

⁷⁸ Lawrence Bliquez, "Two Lists of Greek Surgical Instruments and the State of Surgery in Byzantine Times," in this volume.

⁷⁹ Jerry Stannard, "Aspects of Byzantine Materia Medica," and John Scarborough, "Early Byzantine Pharmacology," in this volume.

⁸⁰ Robert Renehan, "Meletius' Chapter on the Eyes," and Emilie Savage-Smith, "Hellenistic and Byzantine Ophthalmology," in this volume.

⁸¹ Gary Vikan, "Art, Medicine and Magic in Early Byzantium," in this volume.

⁸² For short, suggestive and synoptic accounts, see P. Diepgen, *Zur Frauenheilkunde im byzantinischen Kulturkreis des Mittelalters* (Wiesbaden, 1950 [Akademie der Wissenschaften und der Literatur in Mainz, Abh. geistes- und sozialwissenschaftlichen Kl., Jhrg. 1950, Nr. 1: pamphlet of 14 pp.]), and *Über den Einfluss der autoritativen Theologie auf die Medizin des Mittelalters* (Wiesbaden, 1958 [Akad. Wiss. Lit. Mainz, Abh. g.-soz. Kl., Jhrg. 1958, Nr. 1: pamphlet of 20 pp.]). Diepgen's *Die Frauenheilkunde der alten Welt* (Munich, 1937) also has many "pointers." For the broader contexts, see Judith Herrin, "In Search of Byzantine Women: Three Avenues of Approach," and Susan Ashbrook Harvey, "Women in Early Syrian Christianity," in A. Cameron and A. Kuhrt, eds., *Images of Women in Antiquity* (Detroit, 1983), 167–89 and 288–98.

⁸³ Jean Théodoridès, "Rabies in Byzantine Medicine," and John Scarborough, "The Papyri and Byzantine Medicine on Multi-Ingredient Incense," appendix to "Early Byzantine Pharmacology," both in this volume.

modern assumptions which do not apply, for example, regarding the role of anatomy learned from dissection.

Philology. We must have well-edited Greek, Arabic, Latin, Syriac, and Hebrew texts which result from the best modern techniques of philological criticism. Lieber's study of Asaf below indicates how careful editing of a medieval Hebrew text may well alter our basic views of medieval medical theory generally,⁸⁴ and Riddle's analysis of the scholia attached to Dioscorides delineates how Byzantine herbal lore and pharmacy actually differed from, and occasionally improved upon, classical models and texts.⁸⁵ Hohlweg's essay on John Actuarius shows why reliance upon Renaissance printed texts is fraught with dangerous misrepresentation, especially if one relies on Latin translations of scattered Greek texts of unproven worth, and Todd's paper below indicates how a careful study of texts of philosophical commentary can yield much information on Byzantine medical theory.⁸⁶ At the present stage of the study of Byzantine medicine the manuscripts are fundamental. Those manuscripts also show a Greek that is a living, changing language, as Temkin and Fischer have demonstrated for Byzantine anatomy and veterinary medicine.⁸⁷ One also should recognize that Galen's Greek may provide the "formal," intentionally archaic language of many medical authors, paralleled by historical writers like Procopius and Anna Comnena, who intentionally aped Thucydides in several sections of the *Wars* and *Alexiad*. Byzantine pulse lore,⁸⁸ uroscopy, pharmacy, veterinary medicine, and many other particular aspects, indicate how Byzantine medical writers took their ancient language and invented new words and new approaches, much as had the Ptolemaic Alexandrian physicians when they invented technical terms from common words. One would also like to know what linguistic changes came into Byzantine medicine and science from the Arabic. The analysis of basic primary texts remains the essential problem of our

study of Byzantine medicine as a whole, and until we have more solidly edited editions and translations like those by Renehan and Duffy, our conclusions will be uncertain due to the gaps existing in reliable texts. Classical scholars looking for "new worlds to conquer" would be welcome to edit the numerous authors in Byzantine medicine and science awaiting competent philologists. Classicists uncomfortable with the purely scientific would still have many texts from which to choose that would be important to Byzantine medicine; for example, an explication of the genre of "medical poetry" would repay generous efforts by skilled classical philologists.⁸⁹

History. In this broad category one should include all kinds of history in order to give context to medicine, a setting which is crucial to define how medicine functioned within Byzantine society. Subdivisions of Byzantine history suggest why each subtopic may be important, and why each has to be rejoined to the wider cultural and medical world of the Byzantine Empire. Political and military history, illustrated by Procopius and Anna Comnena, supply details of how military medicine operated and how doctors and medicine fit—or did not fit—into the public activities of politics and politicians. Not only does a Maurice show what medical care actually was available in the Byzantine army,⁹⁰ but analysis of how physicians took part in politics and struggles for power can give instances of doctors' abilities to shift from one calling to another, as indicated by Baldwin's essay below.⁹¹ Cultural history can delineate changes in preferred notions of ideals, and one may be able to comprehend why there would be a revival of the "old" sources in the tenth century, seen both in the medical compilations of Theophanes "Nonnus" and the gathering of veterinary sources that constitute the *Corpus hippiatricorum Graecorum*, texts explicated by Sonderkamp and Doyen-Higuet in this volume.⁹² Cultural history encompasses literature and what writers seek to

⁸⁴Elinor Lieber, "Asaf's *Book of Medicines*," in this volume.

⁸⁵John M. Riddle, "Byzantine Commentaries on Dioscorides," in this volume.

⁸⁶Robert Todd, "Philosophy and Medicine in John Philoponus' Commentary on Aristotle's *De anima*," in this volume.

⁸⁷O. Temkin, "The Byzantine Origin of the Names for the Basilic and Cephalic Veins," *XVII^e Congrès International d'Histoire de la Médecine*, Vol. I: *Communications* (Athens, 1961), 336–39 = Temkin, *Double Face of Janus*, 198–201. Fischer: n. 26 above.

⁸⁸Pithis, ed., *Philaretos* (n. 54 above). See also M. Stoffregen, ed., trans., and comm., *Eine frühmittelalterliche lateinische Übersetzung des byzantinischen Puls- und Urintraktats des Alexandros* (Berlin, 1977 [Diss.]).

⁸⁹See, e.g., F. O. Salinas, "Precetti di salute. Poemetto didascalico greco-bizantino del V secolo," *Pagine di Storia della Medicina*, 17, 3 (1973), 5–22.

⁹⁰G. T. Dennis, trans., *Maurice's Strategikon* (Philadelphia, 1984), pp. 15, 29–30, 42, 59 and 77. Cf. B. Wassiliewsky and V. Jernstedt, eds., *Cecaumeni Strategicon* (St. Petersburg, 1896; rptd. Amsterdam, 1965), 125 [p. 53].

⁹¹Barry Baldwin, "Beyond the House Call: Doctors in Early Byzantine History and Politics," in this volume. Cf. V. Nutton, "L. Gellius Maximus, Physician and Procurator," *CQ*, 21 (1971), 262–72, and Scarborough, *Medicine*, 112–13.

⁹²Joseph Sonderkamp, "Theophanes Nonnus: Medicine in the Circle of Constantine Porphyrogenitus," and Anne-Marie Doyen-Higuet, "The Hippitrica and Byzantine Veterinary Medicine," both in this volume.

portray about themselves and their society, and Kazhdan's essay below⁹³ gives hints of the wealth of information to be gleaned by study of non-medical authors for their views of medicine and physicians. Religious history in Byzantine times is a well-known trove of data, but not until recently have the hagiographical sources been tapped accurately for their details on the presumed conflict between the secular and spiritual approaches to medicine. In this collection of papers, Nutton, Duffy, and Harvey delve into this broad genre,⁹⁴ and discern a constant debate, marked by fuzzy borders between the two supposedly opposed views.

Art history has much to teach us regarding manuscript illuminations of plants and medical practice,⁹⁵ and legal history incorporates what was thought "right" in medical practice, and the penalties for practitioners who violated the customs embedded in law.⁹⁶ Desirable would be an examination of how Byzantine law treated doctors and medicine, and what regulations were placed on those who practiced.⁹⁷ Social history shows how one

lived in an ordinary way, somewhat removed from the Great Names and battles that festoon the historical accounts, and we can thereby perceive the "sense of medicine" accepted among those classes of people who did not record their ideas or impressions. Folkmedicine is present in all cultures and societies, and Vikan's examination of "amuletic drugs" in this volume gives clear glimpses of a folkmedicine, Christian in its forms but displaying a venerated heritage from a pagan past. Finally, even economic history can lend specifics to our attempts to understand Byzantine medicine, much as the listing of drugs and spices in Diocletian's *Price Edict* suggests not only why certain imported medicines were so expensive, but that they were also highly esteemed by pharmacologists in late Roman and early Byzantine medicine.⁹⁸

The twenty-one papers assembled here in *Byzantine Medicine* all attempt to address basic issues in the study of the medical history of Byzantium, and they represent a collective effort to establish the consideration of Byzantine medicine and allied sciences on sure foundations. It is hoped that this volume will engender interest in a neglected area of the History of Medicine, and that Byzantine medicine can take its place as one more facet that illuminates the fascinating, turbulent, and important millennium of the history of Byzantium.

We contributors extend our deep gratitude to the Dumbarton Oaks Research Library and Collection for hosting the 1983 Symposium on Byzantine Medicine, where earlier versions of these papers were presented. One could not overpraise the gracious attention by the staff, nor could one say too much in thanks to Giles Constable, Peter Topping, and others of the Senior Fellows of the Center for Byzantine Studies at Dumbarton Oaks. We all benefited greatly from discussions and suggestions, both from our colleagues in the Symposium and from members of the audience. We furthermore extend our appreciation to Dumbarton Oaks for undertaking to publish our papers as a volume in the *Dumbarton Oaks Papers*, thereby giving the collection of essays a unity which would have been lost had the participants published their contributions separately in scattered journals.

John Scarborough

⁹³ Alexander Kazhdan, "The Image of the Medical Doctor in Byzantine Literature of the Tenth to the Twelfth Centuries," in this volume.

⁹⁴ See n. 13 above.

⁹⁵ Byzantine manuscript illuminations are distinctive and important. See, e.g., Soranus (ed. Ilberg), plates 1–60 (MS illuminations for Soranus' *Bandages* from Cod. Laur. 74, 7); Apollonius of Citium (ed. Kollesch and Kudlien [n. 36 above]), plates 1–XXX (MS illuminations for Apollonius' *On Hippocrates' Joints* from Cod. Laur. 74, 7), color reprod. of Cod. Laur. 74, 7, fol. 200 (reduction of dislocated vertebrae by ladder-jolting) in L. MacKinney, *Medical Illustrations in Medieval Manuscripts* (Berkeley, 1965), plate 91A. A selection of color plates from the beautiful sixth-century Vienna Codex of Dioscorides is in O. Mazal, *Pflanzen, Wurzeln, Säfte, Samen: Antike Heilkunst in Miniaturen des Wiener Dioskurides* (Graz, 1981), and various miniatures of the insects, arachnids, and animals described by Nicander, Dionysius, Dioscorides, Oppian, and others, are given in color by Z. Kádár, *Survivals of Greek Zoological Illuminations in Byzantine Manuscripts*, trans. T. Wilkinson [from the Hungarian] (Budapest, 1978). How much the sensitive skills of art historians can aid us in understanding these "pictorial guides" to both ancient and Byzantine medicine can be gauged by the numerous studies by K. Weitzmann, which include medical and scientific illuminations, e.g., "The Greek Sources of Islamic Scientific Illustrations," *Archaeologica Orientalia in Memoriam Ernst Herzfeld* (Locust Valley, New York, 1952), 244–66 (rpt. in H. L. Kessler, ed., *Kurt Weitzmann: Studies in Classical and Byzantine Manuscript Illumination* [Chicago, 1971], 20–44) and *Illustrations in Roll and Codex*, 2nd ed. (Princeton, 1970), esp. 134–37 and 143–47. See also K. Weitzmann, *Late Antique and Early Christian Book Illumination* (New York, 1977), 61–71 with plates 15–20, and (ed.) *Age of Spirituality* (New York, 1979), 199–200. Cf. Gary Vikan, ed., *Illuminated Greek Manuscripts from American Collections: An Exhibition in Honor of Kurt Weitzmann* (Princeton, 1973), 66–69.

⁹⁶ For doctors and Roman law, see K.-H. Below, *Der Arzt im römischen Recht* (Munich, 1953).

⁹⁷ Byzantine law provides some of the foundations for the preliminary study by Aristotelis C. Eftychiadis, *Ἡ ἄσκησης τῆς*

βυζαντινῆς ἱατρικῆς ἐπιστήμης καὶ κοινωνικαὶ ἐφαρμογαὶ αὐτῆς κατὰ σχετικὰς διατάξεις (Athens, 1983).

⁹⁸ Siegfried Lauffer, ed., *Diocletians Preisedikt* (Berlin, 1971), 36, 26–119 [pp. 195–99].